Asbestos Awareness and Management Program

The purpose of this program is to provide guidelines for awareness and management of asbestos in University facilities.

Asbestos-Containing Material (ACM) has been identified in a number of buildings at Florida State University (FSU). FSU manages the ACM in place, as recommended by the United States Environmental Protection Agency (EPA), until it is removed due to renovation or demolition. This asbestos awareness and management program provides guidance to manage ACM safely, and includes:

- An inventory of known asbestos-containing materials
- Notification of building occupants
- Coordination of asbestos abatement activities
- Periodic surveillance of ACM
- Training of maintenance and custodial staff and any other employee required to work with or near ACM

General Asbestos Information Frequently Asked Questions

What is asbestos?

Asbestos is a group of naturally occurring fibrous minerals that are mined from the earth. Asbestos deposits are found throughout the world.

Asbestos has been used for over 2,000 years. The word asbestos comes from the ancient Greek, meaning "inextinguishable". The Greeks admired asbestos because of its softness and flexibility, as well as its ability to withstand heat. The Greeks used asbestos much like cotton, spinning and weaving it into cloth. The non-flammable quality of asbestos and its flexibility made it useful for several ancient products. Ancient Greeks used asbestos for lamp wicks and blacksmith gloves. Ancient Egyptians used asbestos cloth to prepare bodies for burial. Romans collected ashes of the dead by wrapping bodies in asbestos before cremation.

The unique characteristics of asbestos made it perfect for use in machinery during the industrial revolution. Asbestos was not widely available until the late 1800s, when major deposits were found in Canada. Thereafter, asbestos was used to make thermal insulation for boilers, pipes, and other high temperature applications. It was also used as a fireproofing and product-strengthening material. During World Wars I and II, the military used asbestos extensively in ships and other applications. Commercial usages of asbestos in buildings increased greatly thereafter. Half of all multi-story buildings built in the U.S. from 1950-1970 contain some form of asbestos such as cement products, plaster, fireproofing, wallboard, ceiling tile, floor tile, and pipe insulation. Currently the primary sites of commercial asbestos production are Canada, Russia, and South Africa.

Asbestos fibers are virtually indestructible. They are resistant to chemicals and heat, and are very stable in the environment. They do not evaporate into the air or dissolve in water, and they do not break down over time. Asbestos is probably the best insulator known to man. Due to the many useful properties of asbestos, it has been used in over 3,000 different products.

When asbestos is damaged or disturbed, it breaks down into smaller and smaller fibers. These individual fibers are so small they must be identified using a microscope. Some fibers may be up to 700 times

smaller than a human hair. Asbestos fibers are so small, once released into the air, they may stay suspended for hours or even days.

What materials contain asbestos?

Asbestos may be found in many different products and many different places.

Examples of products that may contain asbestos are:

- Sprayed-on fire proofing for structural steel
- Pipe and boiler insulation
- Drywall and joint compounds, including textured and decorative applications
- Plaster, including acoustical and decorative types
- Wall and ceiling insulation
- Ceiling tiles
- Vinyl floor tile and linoleum including the adhesives
- Cement products including pipes, panels, and roof and siding shingles
- Roofing
- Fireproofing material such as blankets, fire curtains, lab counter tops, gloves, electrical wiring insulation, cloth, and structural insulation
- Felts, caulking, putties, and adhesives
- Brake linings, clutch pads and gaskets
- Fire doors

When is asbestos dangerous?

Asbestos-Containing Material (ACM) maintained in good condition does not pose a threat to human health. ACM is not considered to be harmful unless it is releasing dust or fibers into the air where they can be inhaled. Damage or deterioration of ACM will increase the likelihood of fiber release. Water damage, continual vibration, aging, and physical impact such as drilling, grinding, buffing, cutting, sawing, or striking can break the materials down, making fiber release more likely.

What are the health effects of exposure to asbestos?

Asbestos is potentially hazardous to your health. Almost daily, we are exposed to some prevailing level of asbestos fibers in buildings or in existing levels found in outdoor air. People most at risk for exposure are maintenance and construction workers who work on, and disturb, asbestos in buildings. It is important to recognize that the majority of people who have developed diseases because of asbestos exposure worked in occupations where asbestos was used. These workers were frequently exposed to high levels of asbestos fibers each working day, with little or no protection.

People may be exposed to asbestos in the workplace, communities, or homes. If products containing asbestos are disturbed, tiny asbestos fibers are released into the air. When asbestos fibers are breathed in, they may get trapped in the lungs and remain there for a long time. Over time, these fibers can accumulate and cause scarring and inflammation, a type of progressive fibrosis called asbestosis. Asbestos has also been shown to cause cancer. Studies have shown that exposure to asbestos may increase the risk of lung cancer and mesothelioma (a relatively rare cancer of the thin membranes that

line the chest and abdomen). Although rare, mesothelioma is the most common form of cancer associated with asbestos exposure.

Who is at risk for an asbestos-related disease?

Everyone is exposed to asbestos at some time during his or her life. There are no known truly unexposed groups of people in the world. Low levels of asbestos are present in the air, water, and soil. However, most people do not become ill from their exposure. People who become ill from asbestos are usually those who are exposed to it on a regular basis, most often in a job where they work directly with the material or through substantial environmental contact.

Since the early 1940s, millions of American workers have been exposed to asbestos. Health hazards from asbestos fibers have been recognized in workers exposed in the shipbuilding trades, asbestos mining and milling, manufacturing of asbestos textiles and other asbestos products, insulation work in the construction and building trades, and a variety of other trades. Demolition workers, drywall removers, asbestos removal workers, firefighters, and automobile workers also may be exposed to asbestos fibers. As a result of Government regulations and improved work practices, today's workers (those without previous exposure) are likely to face smaller risks than did those exposed in the past.

Although it is clear that the health risks from asbestos exposure increase with heavier exposure and longer exposure time, investigators have found asbestos-related diseases in individuals with only brief exposure. Generally, those who develop asbestos-related diseases show no signs of illness for a long time after their first exposure. It can take from 10 to 40 years or more for symptoms of an asbestos-related condition to appear.

What factors affect the risk of developing an asbestos-related disease?

Several factors can help to determine how asbestos exposure affects an individual, including:

- Dose (how much asbestos an individual was exposed to).
- Duration (how long an individual was exposed).
- Size, shape, and chemical makeup of the asbestos fibers.
- Individual risk factors, such as smoking and pre-existing lung disease.

Although all forms of asbestos are considered hazardous, different types of asbestos fibers may be associated with different health risks.

How does smoking affect risk?

Many studies have shown that the combination of smoking and asbestos exposure is particularly hazardous. Smokers who are also exposed to asbestos have a risk of developing lung cancer that is greater than the individual risks from asbestos and smoking added together. There is evidence that quitting smoking will reduce the risk of lung cancer among asbestos-exposed workers. Smoking combined with asbestos exposure does not appear to increase the risk of mesothelioma. However, people who were exposed to asbestos on the job at any time during their life or who suspect they may have been exposed should not smoke.

If you work with asbestos or have been exposed to it, the first thing you should do to reduce your chances of developing cancer is to stop smoking.

Organizations that may offer programs, support, or information to help people stop smoking are:

- National Cancer Institute (1-800-4-CANCER)

- American Heart Association (1-800-242-8721)
- American Lung Association (1-800-586-4872)

How do I avoid exposure?

DO NOT ASSUME MATERIALS DO NOT CONTAIN ASBESTOS.

Any FSU department initiating work activities that will disturb a building material (i.e. floor tile during a carpet replacement, new ceiling installation, etc.) must first contact an EH&S Asbestos Coordinator and/or a Facility Project Manager to determine if asbestos-containing materials are present.

What if I have other questions?

Contact EH&S at 644-6895

Responsibilities

The Department of Environmental Health and Safety (EH&S), Industrial Hygiene Section, is responsible for administering the University's asbestos management and educational awareness program, and for monitoring compliance with State and Federal asbestos regulations. The Department of Facilities is responsible for coordination and funding of abatement activities.

Management of Asbestos Containing Materials

Coordination

When an ACM will be impacted during major and minor renovation or demolition projects managed by the Department of Facilities, EH&S will ensure the locations of the ACM are identified and provide input for its safe removal. Other FSU administrative or academic departments planning to perform activities that will disturb building materials (e.g., carpet replacement, new ceiling installation, etc.) by hiring vendors on their own, or using their own staff, must coordinate with Facilities and EH&S to determine if ACM will be affected.

Contact the EH&S Asbestos Coordinator as soon as possible in the planning stages of work activities that have the potential to disturb ACM, or if it is unknown whether or not the material contains asbestos.

NEVER ASSUME MATERIALS DO NOT CONTAIN ASBESTOS. Doing so could expose building occupants to airborne asbestos fibers.

When applicable, vendors and contractors working in the buildings are to be informed as to the presence of ACM. If you believe there is damaged or deteriorated ACM in your area, immediately contact the Asbestos Coordinator or Asbestos Project Manager. Address emergencies and after-hours concerns to the Facilities Service Center at 644-2424 or FSU Police Department.

Inventory

An inventory of all known asbestos materials is maintained by the EH&S Asbestos Coordinator. This inventory is reviewed before conducting maintenance work on or near ACM. It is also used for delineating ACM locations when planning for renovation or demolition. Where no surveys exist or the status of a material is in question, as a best management practice it is assumed to contain asbestos until sampling and laboratory analysis proves otherwise. The EH&S Asbestos Coordinator will sample the material to determine if it contains asbestos.

Buildings that contain ACM are subject to monitoring and periodic inspections until all the ACM has been removed.

Operations & Maintenance

A campus-wide Asbestos Operations and Maintenance (O&M) Plan is maintained by the University. Operations and Maintenance, or in-place management, is the primary method of managing asbestos-containing materials. When day-to-day repairs or maintenance will impact an ACM, Facilities in-house Asbestos Team (A-Team) removes the small amounts of asbestos involved in a planned and controlled manner. Work practices are used to protect both building occupants and A-Team personnel.

Procedures

Abatement Procedures

Asbestos removal for larger projects beyond the scope of O&M work is often required in occupied buildings. This is acceptable and safeguards are used to protect building occupants. Only Florida licensed asbestos abatement contractors are hired for removal of ACM. The contractors must follow strict regulations when performing asbestos abatement to ensure that asbestos fibers do not migrate to areas outside the abatement area. Some of these safeguards include:

- Establishing containment by separating the abatement area from the occupied areas using plastic sheeting.
- Posting warning signs.
- Using fans with high efficiency filters to exhaust air from the work area to the outdoors.
- Minimizing dust formation by wetting ACM during removal.
- Using specialized equipment and respirators to protect abatement workers.
- Use of EPA trained supervisors and workers who are certified in asbestos abatement procedures.
- Performing work during weekends and nights when possible.

To ensure all the asbestos is removed and the abatement area is safe for re-occupancy, each asbestos removal project is conducted under the direction of a Florida Licensed Asbestos Consultant whose responsibilities include:

- Developing project specific technical plans.
- Continuous visual on-site monitoring of the contractors' activities to ensure all safety practices are followed during the abatement.
- Collecting air samples in areas adjacent to and outside of the abatement areas to confirm no fibers are escaping the containment system and exposing building occupants.
- Performing a final visual inspection to ensure all asbestos has been removed.
- Performing final air sampling tests to ensure no airborne fibers remain in the abated area.

Given these precautions, building occupants and other people outside of the abatement area are not at risk of exposure to asbestos.

Removal of Asbestos Roofing Material

All suspect roofing materials shall be sampled for asbestos content utilizing current State of Florida sampling criteria prior to disturbance or removal of the material. The roofing condition shall be assessed by a licensed Asbestos Consultant and a recommendation made to the University Asbestos Coordinator regarding appropriate response actions and the use of a Florida licensed asbestos abatement contractor or a Florida certified roofing contractor. Bituminous resinous roofing materials are generally regarded as

being less likely to release asbestos fibers; therefore, Florida Statutes allows removal by Florida certified roofing contractors. Roofing materials containing asbestos must be removed under the continuous inspection of an "on-site roofing supervisor," in accordance with EPA 40 CFR Part 61, Subpart M, Appendix A to Subpart M of Part 61 - Interpretive Rule Governing Roof Removal Operations, and Chapter 469, F.S.

Removal of Vinyl Asbestos Floor Tile

In accordance with Florida Statute 255.40, any new flooring material shall not contain asbestos. Vinyl asbestos floor tile shall be removed in compliance with EPA 40 CFR Part 61, Subpart M, 61.141, 61.145 (a), 61.145 (b), 61.145 (c), and Chapter 469, F.S.

Training

Maintenance A-Team members engaged in repair and maintenance activities (relating to the Operations & Maintenance Plan) where ACM is likely to be disturbed are trained annually in specific work practices and engineering controls related to that activity. This includes "hands-on" training in the work practices applicable to each category of material that the employee disturbs.

Training for employees performing maintenance and custodial activities, during which the employees may contact but do not disturb ACM, includes information concerning the locations of ACM and how to recognize damaged or deteriorated ACM. The OSHA (Occupational Safety and Health Administration asbestos standard (1926.1101) requires the training to be consistent with EPA requirements set forth for Local Education Agencies in 40 CFR 763.92(a)(1). Both groups are trained in the health effects associated with asbestos exposure.

Building Occupants have access to Online Asbestos Awareness Training for Building Occupants and, upon request, training will be given on-site.

Insurance and Contracting

The contract manager shall;

(1) Prior to issuing any abatement contract, which shall be based on specifications prepared by an asbestos consultant, the contracting agency shall verify that the asbestos contractor has liability insurance with a pollution endorsement against claims or claim expenses arising from any abatement project.

(2) In the event such liability insurance ceases to be available to asbestos contractors, the asbestos contractor shall post a surety bond or letter of credit.

Conflict of Interest

Before an asbestos contractor is hired, an asbestos consultant shall first be retained to design and prepare the abatement project specifications (under separate contract and independent of the influence from the asbestos contractor). There must be no conflict of interest between the contractor and consultant. Any changes to project specifications shall be provided in the form of addenda issued by the consultant after review and consultation with the Asbestos Coordinator. The contractor shall provide to the University Asbestos Coordinator a notarized form indicating no conflict of interest. The forms are available from the Asbestos Coordinator with the Department of Environmental Health & Safety or print one here Conflict of Interest Affidavit.

Governing Regulations and Entities

- Occupational Safety & Health Administration
- Environmental Protection Agency
- Florida Statutes 255.40, 469.001 - 469.014
- Rule 6C-14.007, Florida Administrative Code